BBC Wildlife, 14 (n:3), March 1994, p. 33

ANIMAL ENIGMAS

Prehistoric fishing

scientific resurrection of the coelacanth – ish that, by rights, should have been extinct for million years must be a once-in-an-eon event. t could it happen again, just half a century later? *ichard Greenwell* examines the evidence.

Hans Fricke (*inset*-ISC)

Catch of the epoch. That there could ever be such a thing as this – a photograph of a living coelacanth – would once have seemed as impossible a prospect as a snapshot of a Tyrannosaurus. But there it is all the same. Now, what about that other likeness *(inset)*, made in Mexico, probably, two or three hundred years ago? Can there be more than one impossible fish in the sea?

he history of zoology changed dramatically in December of 1938, when a young South an naturalist named Marjorie tenay-Latimer found, by chance, ng specimen of a coelacanth, an nt six-foot fish thought extinct the time of the dinosaurs. It is a ber of a group of lobe-finned s that evolved in the Upper nian, more than 400 million ago – making the coelacanth ldest known form of living brate. About 70 fossil coelacanth ies have been described, the recent being Macropoma, to about 80 million years ago. urtenay-Latimer's discovery of ng coelacanth, verified by J L B h – who formally described it as *neria chalumnae* – stunned the gical world, and resulted in all chthyology and palaeontology ooks having to be rewritten. It is considered the zoological find of entury. In 1952, Smith obtained ond specimen, uncovering the s secret habitat: the waters of the oros Islands, between lagascar and East Africa. ntil recently, all of the 200 or so imens caught in the intervening ears have come from the oros. There has been a lot of ulation as to whether unknown acanth populations might also in African coastal waters, an idea gthened by the finding, in 1991, specimen off Mozambique. s Fricke, the German yologist who in 1987 was the to film coelacanths in their erwater habitat, has even searched hem in South African waters in ubmersible – unsuccessfully. hile this question remains solved, others have been nining evidence for possible acanths further afield. The first comes from 1949, when a woman ran a small souvenir shop in pa, Florida – on the Gulf of ico – mailed a strange fish scale aac Ginsburg at the US Fish and llife Laboratory. She wrote how had bought a gallon can full of scales, each measuring 1.5 inches ss, and had become curious as to t kind of fish they were from. Dr Ginsburg recognised that the scale did not represent any known North American fish and informed *Science News Letter* that it must have come from a primitive coelacanth-like fish. He wrote to the woman requesting details, but she never responded.

Dr Ginsburg has since died, and as far as I know, he never pursued the matter. A 1988 inquiry to the Division of Fishes at the US National Museum in Washington – where Dr Ginsburg's laboratory was – failed to uncover the whereabouts of the scale. But in 1992, 43 years after this event, Frenchman Roland Heu bought some fish scales in a souvenir shop in Biloxi, Mississippi, and he believes they came from a coelacanth.

Coincidentally – and quite independently – Sterling Lanier, a knowledgeable American naturalist and former book editor who visited me in Tucson in October 1993, told me a similar story, which he set down in a written statement. About 20 years before, when he was selling his well-known brass figurines of fossil animals at an outdoor art show near Florida's Gulf coast, another artist was displaying a necklace made of fish scales that "looked very much like those of *Latimeria*." He had extracted these from a pile of 'trash' fish, crabs, and seaweed from a Gulf shrimp boat. "He had caught their glitter," recalls Lanier in his statement, "and picked them out, one by one."

The owner let Lanier examine and sketch the scales, but he refused to sell the necklace. Unfortunately, Lanier, now retired in Sarasota, Florida, has lost the original notes and sketches, and all we have is his statement. He has no knowledge of other supposed Gulf of Mexico coelacanth scales, and had assumed his was the only such report.

Our story now moves from the Gulf of Mexico to the Bay of Biscay, on Spain's northern Basque coast. There, in 1964, in a small village church near Bilbao, Brazilian chemist Ladislao Reti bought a small, four-inch silver fish from the priest. The depiction is a little different from *Latimeria* – indicating a different species – but it is a coelacanth. How did this silver object arrive at the church? Nobody knows, but it is believed to be from the nineteenth century. If so, coelacanths must have been known to someone somewhere before the 1938 South African discovery. The following year, another silver coelacanth was purchased in an antique shop in Toledo, this time by Maurice Steinert, a molecular biologist at the Brussels Free University.

This second model eventually came to the attention of Hans Fricke, who in 1987 flew to Brussels to inspect it. Again, he found that it was like a coelacanth, but a little different, hinting at an as-yet-undiscovered species. Dr Fricke then consulted with silver art specialists, who opined that the silver fish had been made in the seventeenth or eighteenth centuries. Frustrated, Dr Fricke went to northern Spain with Raphael Plante, a Marseilles marine biologist, and they searched old churches and antique shops for more silver coelacanths – without luck. But through their consultations with church and museum officials, they learnt that silver fish collections have always been popular with aristocrats. So further discoveries in such collections may be possible.

One more clue uncovered by Dr Fricke was that Professor Valdavinus, in Madrid, who is a silver art expert, believes that the silver coelacanths probably originated in colonial Mexico, only later finding their way to Mother Spain. Thus, we may now ponder the question: is it just a coincidence that coelacanth-like scales have been turning up in the Gulf of Mexico?

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